



The Rhumb Line

Maine Maritime Museum

Winter 2003

Explore Maine's Maritime History Where It Began!

Number 36

Why Wyoming?



Wyoming on her launching day - December 15, 1909. A day late due to a severe storm and, on the 15th, seemingly impatient, a half hour early, disappointing many still travelling by trolley to Percy & Small's South End, Bath yard.

By Thomas R. Wilcox, Jr.

For years now, Maine Maritime Museum has been preparing to construct a full-sized sculpture of the six-masted schooner *Wyoming* right on the spot from which she was launched into the Kennebec River in December, 1909. Today this is part of the Museum - back then it was part of the Percy & Small shipyard. Capt. Sam Percy and Mr. Frank Small had formed a partnership in 1894 to own, operate and build a fleet of four-, five-, and six-masted schooners engaged primarily in the coastwise coal trade - carrying West Virginia coal from Norfolk and Newport News to New York, Boston, Portland and St. John. This was right at the end of the age of commercial sail and these immense but lightly-crewed vessels could and did make exceedingly decent profits for their owners, even though the schooners had been technologically obsolesced by the steamship or, more to the point, by steam tugs towing barges.

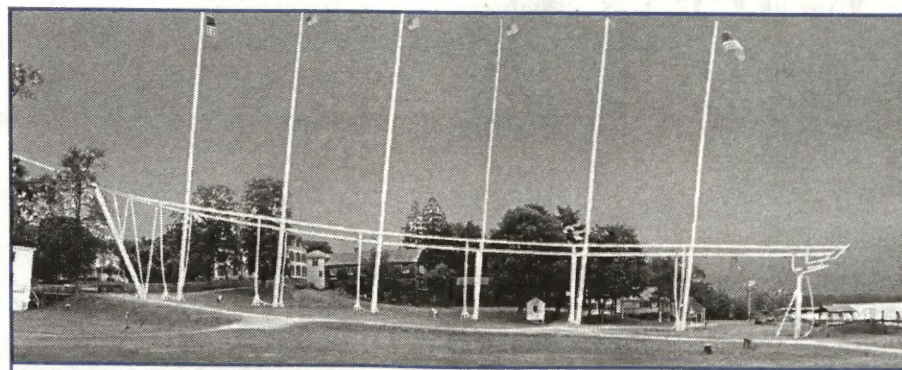
The Museum has long striven to create a proper monument to this signature vessel for three reasons: 1) it was the world's biggest wooden sailing vessel and it was built "right here;" 2) it was in many ways the apogee of wooden shipbuilding; and, 3) the buildings in which the pieces of these great vessels were fashioned are still standing and the chance to have an evocation of the biggest of them again towering over all seems too exquisite to pass up.

The *Wyoming* was the biggest wooden wind-powered vessel ever built. Of this there is little credible dispute. Her principal dimensions were 329.5' of length, 50.1' of beam and 30.4' depth of hold. She measured 3,730 gross register tons. This is a measurement of volume, not displacement. One ton equals 100 cubic feet of space and the dimensions and formulae used to arrive at this figure have changed over time. Basically, to arrive at tonnage one multiplies the length of a vessel by its breadth (measured at the main deck) and again by the depth of its hold. One then formulaically accounts for the "pointiness" of each end of the hull. Then, one must subtract out certain spaces required to operate and inhabit the vessel. Finally, one must divide the remainder by 100.

In making the bold claim about *Wyoming* being the biggest wooden sailing vessel ever built, one should probably allow one specific and one general exception to this claim.

The specific exception is an odd and extremely clever vessel built in 1825 by brothers John and Charles Wood who were shipbuilders in Glasgow. They constructed a vessel called the *Baron of Renfrew* at Anse du Fort, Quebec. It was built to capitalize on the emerging North American timber market versus that of the Baltic and was the second and much larger vessel of the same basic design. It had measurements of 304' length, 61' beam, and 34' "depth of hold," equaling 5,294 register tons. It was rigged as a four-masted bark, and sailed laboriously across the Atlantic. What made this vessel a curiosity in addition to its huge size was that for all intents it was made OF SOLID TIMBER! It would appear that its

(continued on page 4)



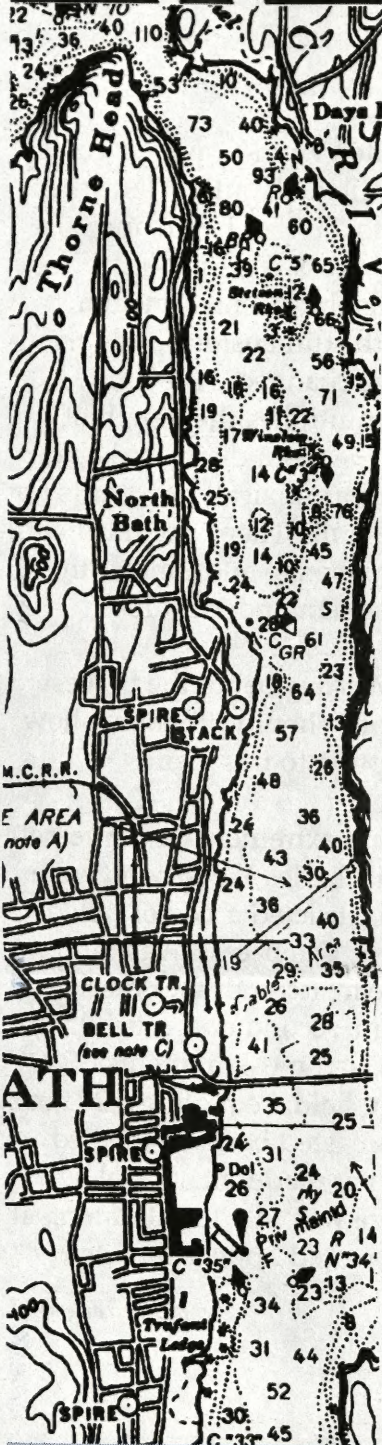
A virtual new Wyoming on almost the same spot from which her forebear was launched. Note Donnell House in the background of this and the photo nearby.

MAINE MARITIME MUSEUM

243 Washington Street, Bath, Maine 04530
www.mainemaritimemuseum.org

Our Mission is to collect, preserve and interpret materials relating to the maritime history of Maine and to promote an understanding and appreciation thereof.

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From The Chart Table

Today is a pearl of a clear, mild fall day plunked down in the middle of some raw, windy and rainy ones here on the coast of Maine. I just saw Educator Donna Ovington in the process of converting the *Sherman Zwicker* from temporary additional duty as a scary, haunted pirate ship back into a Grand Banks fishing schooner. Several hundred little buccaneers braved spider webs, bones and "real" pirates down in the fish hold this past weekend during our annual Pirate's Party. Dave Boulette and Mike Footer, our maintenance staff, together with Volunteer Bob Mansfield are trundling floats down to the Deering Pier and plucking them out of the Kennebec for the winter. By the end of the day the floats will be out, the moorings gone and the last of our boats high and dry. Only the *Zwicker* will remain and she will shortly leave for her winter berth in Boothbay Harbor.

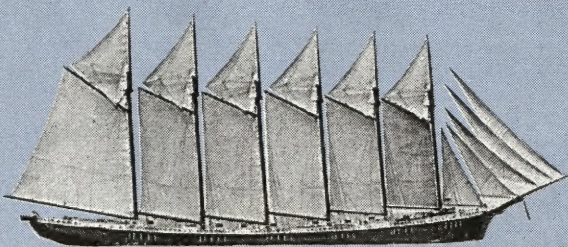
Thus summer eases quickly around here into winter and on to museum work for which there is little time during the busy months. School kids are here often this time of year, including a new crop of South Bristol eighth graders who will build a couple of skiffs by spring. A lovely new temporary exhibit of contemporary marine paintings by the Fellows of the American Society of Marine Artists is on display for November and December. In January or very early February, we will open our new Ocean Commerce exhibition.

There are fewer of us on staff at the moment than before, the Museum not being immune to some of the contrary currents out in the world. In a "From The Chart Table" some time ago I analogized the Museum at that time as sailing in the trade winds with all plain sail set. Things were going quite well. This year I would say we are experiencing some foul weather under shortened sail. But conviction about our fundamental strength and past experience of success motivate us to press on with the certainty of brighter days to come.

Thanksgiving is just around the corner. The Museum family has much to be thankful for: an inspired Board, dedicated Staff, tireless Volunteers and supportive Members. Thanks to all of you for doing your part.

Tom

Thomas R. Wilcox, Jr.
Executive Director



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Thank You!

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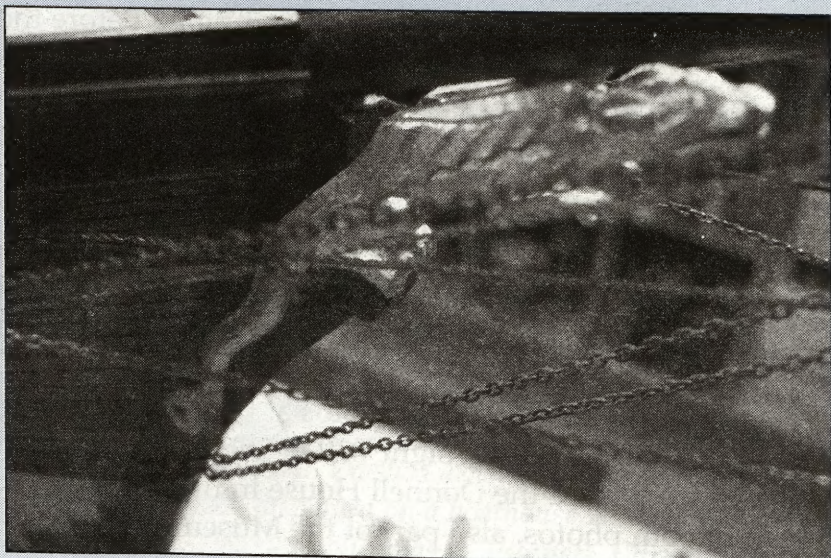
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Mark C. Wilkins photo

Sneak Preview

A preview of the gilt dragon figurehead of the model clipper ship Snow Squall being built as a Museum commission by Mark Wilkins under a grant from Al Gordon's Gordon Foundation. The model, at 3/16" to the foot scale, will be an important component of the Museum's new ocean commerce exhibition, opening this winter. The actual Snow Squall was built at what is now South Portland in 1851 and was abandoned in Port Stanley, Falkland Islands in 1864. The recovered forefoot of Snow Squall is now in viewable storage at Maine Maritime Museum.

Why Wyoming? (continued from page 1)

cargo was integral to its construction and it was designed for a one way trip. It was indeed dismantled by her owners for its valuable timbers that were then adaptively re-used.

Called a "raft ship" it was really more raft than ship and this writer, for one, does not consider it comparable to a vessel of the complexity of the schooner *Wyoming*. However, it must be noted, technically, as an exception to the claim of *Wyoming's* place at the top.

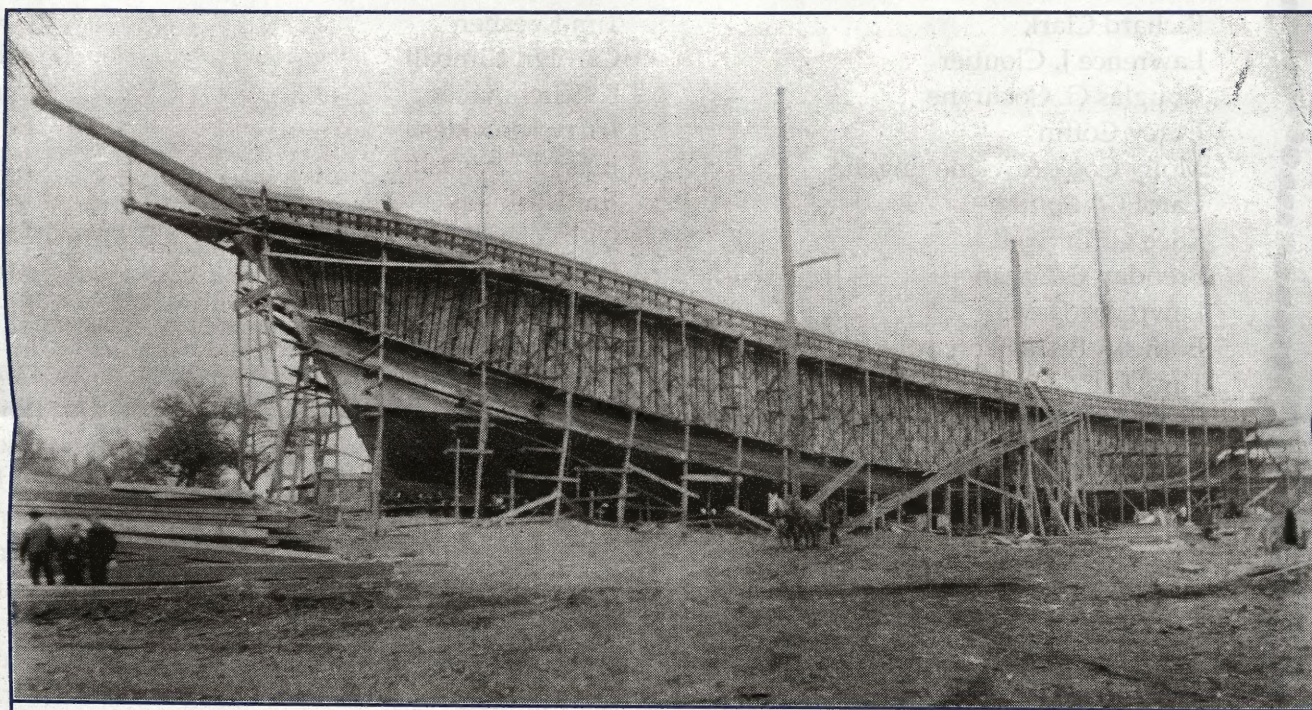
The general exception to the claim is simply that the writer has not heard of a larger wooden sailing ship ever having been built although, because the world is a big place, and people have been building watercraft a very long time, there might have been. The writer chooses not to consider Noah's Ark because there is so little documentation. No archeology has ever found evidence of the Ark to determine its construction. It would seem an awfully big vessel given the state of shipbuilding at the time. At 300 cubits by 50 cubits by 30 cubits, and granting the "normal" cubit length of 46 centimeters (18"), or the distance between a man's elbow and the tip of his longest finger, the Ark would have been 450' long, 75' of beam and its "depth," depending on how the vessel was actually constructed, would have been 45'. Not accounting for any pointiness, this would have been a vessel of over 15,000 tons. As we shall see in a moment, a wooden hull of these proportions would have needed some help in the structural rigidity department.

One vessel that was most likely not as large as *Wyoming* was Donald McKay's *Great Republic*, launched in East Boston in 1853 and often referred to as the largest wooden sailing vessel ever. The story goes that *Great Republic* measured 4,555 tons on dimensions of 335' by 53' by 38' when built. She was towed to New York to load her first cargo and while there and before she ever sailed she burned to the waterline. Her underwriters raised her, she was rebuilt without her upper deck and her new tonnage on measurements of 302' by 48' by 29' was calculated to be 3,357 - smaller than *Wyoming's*. The writer has before heard *Wyoming's* claim to fame as being "the largest wooden sailing vessel ever to carry cargo" acknowledging the "fact" that *Great Republic* started out larger. But maritime historian John Lyman, in his newsletter *Log Chips* in November, 1948, contended very convincingly that it is highly unlikely *Great Republic* was as large as claimed when built and that her dimensions, particularly her length and breadth, were probably inflated, or "fudged" as Mr. Lyman expressed it. Lyman bases his contention primarily on the fact that her new dimensions were much smaller than her old dimensions even though she was rebuilt with only her upper deck missing. Lyman argues that her dimensions would not have changed as much as they seem to have done. The length would of course have been reduced but only by the distance suggested by the rake of her stem and the beam might actual-

ly have increased if there was any tumblehome at all. Tumblehome refers to the hull being wider at the level of the waterline than at the main deck. This shape has the effect of reducing the gross tonnage calculation since the beam measurement is taken at the main deck level, but vessels so designed could carry more cargo than their register tonnage would suggest.

As to *Wyoming* being the apogee of wooden shipbuilding, the writer is referring to the fact that the partners Percy & Small seem to have solved most of the technical issues relating to building such a massive hull, most particularly its tendency to bend and twist and rack - due to the competing forces of the sea, the strain of wind against the rig, and the sheer mass of the cargo.

To counter the forces causing the hull to "work" shipbuilders had long employed keelsons - large interior fore and aft timbers built up on top of and bolted to the keel ("keelsons" and "rider keelsons") as well as timbers arranged alongside these



A good view of the critical diagonal steel strapping installed to reduce the flexing of Wyoming's hull. Ceiling (inside) planking is complete and outside planking has begun.

to give additional support ("sister keelsons"). In *Wyoming*, the height of its keelsons was more than seven feet.

But the technique that most effectively countered the forces trying to tear the hull apart was steel strapping. Before the outside planking was applied, a massive belt strap was fastened to the frame all the way around the vessel at more or less the main deck level. This 9" x 7/8" strap was cut into the frame so that subsequent planking would lie flush against the frame timbers. Similarly, the rest of the frame was cut with adzes to permit a criss-cross pattern of 4.5" x 1/2" diagonal strapping that went from the belt strap to a floor timber at approximately the keel.

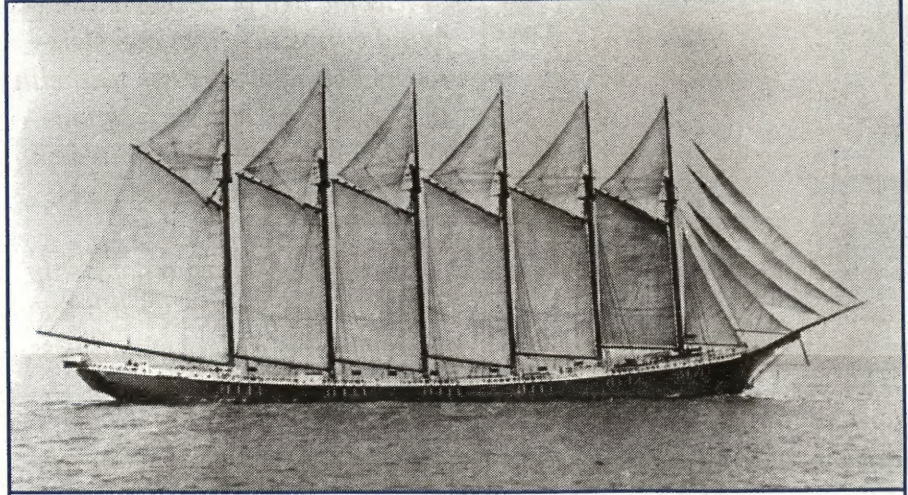
Finally, one can see, in the two photos at the beginning of this article, how impressive the sight will be when the new *Wyoming* rises. Note the Donnell House in the left background of both photos, also part of the Museum grounds.

(continued on page 5)

Why Wyoming? (continued from page 4)



Wyoming exhibiting one of the great schooners' handy characteristics – their ability to sail "light," without cargo or ballast. Tacking, however, proved nearly impossible in this trim, so wearing ship or even pivoting around dropped windward anchors was the order of the day.



Wyoming loaded for a trip north. With 6,000 tons of coal aboard, freeboard could be reduced to five or six feet. Still, Captain Angus McLoud could describe Wyoming as being "handy as a yacht"

William T. Donnell owned the yard immediately to the north of Percy & Small and lived right on top of his operation. Probably the most astonishing thing visually about these great schooners as they took shape upon the ways was the scale of their surroundings. Quite substantial buildings (barns, sheds, shops and houses) became increasingly insignificant compared to the immensity of the vessels 100 or so men were creating in this Bath South End neighborhood. All would eventually return to normal when the great vessel smoked down the ways into the river.

The actual *Wyoming* spent the next not quite fourteen years dutifully, reliably and capaciously hauling coal up the Atlantic Seaboard from the Chesapeake to New England and Maritime Canada. She even made one Trans-Atlantic voyage and one to South America. She had two owners after Percy & Small. On her last trip, she ran into heavy weather rounding Cape Cod in the late winter of 1924. She anchored for a while in the company of one of her P & S sisters, the 5-masted *Cora F. Cressy*, in sight of the Pollock Rip Lightship. *Wyoming* was lost in the fury of the storm with all of her 14 hands and the *Cressy* got safely to sea. Today, the billet heads

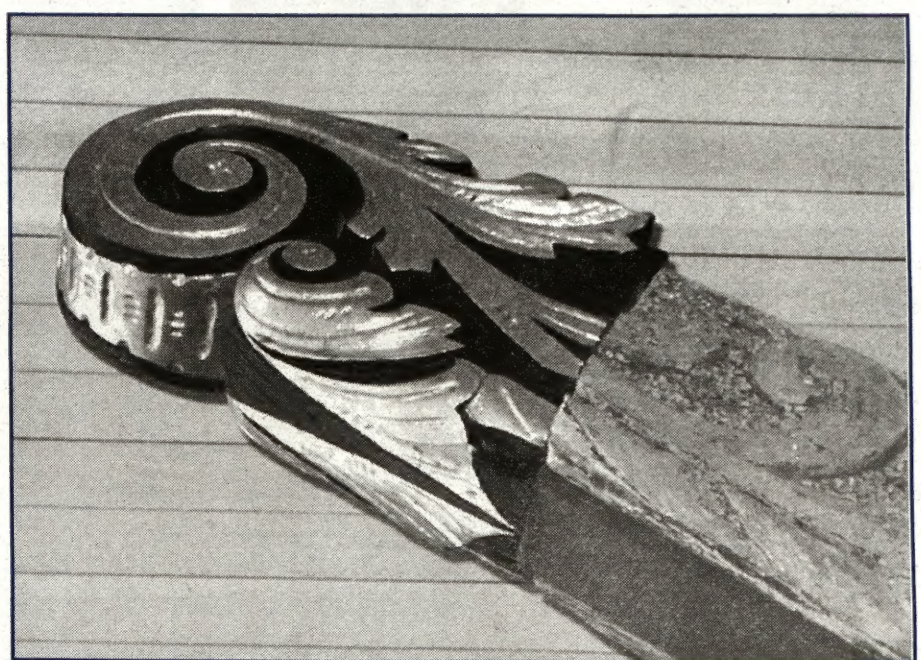
of both vessels rest quietly and comfortably on display in the Museum galleries not 30 feet from one another and only a stone's throw from the place they were both created nearly 100 years ago.

The new *Wyoming* will hopefully rise within a year on the site of her building ways. The design has been executed by a team led by Maine artists Andreas von Heune and Joe Hemes. An engineer has certified its structural integrity. Heavy contractors Reed & Reed have agreed to build it. What remains is the completion of a fund-raising effort in order to make this dream a reality. This is under way.

(The writer would like to thank authors Ralph Linwood Snow and Capt. Douglas K. Lee for the research they did about the Percy & Small shipyard and the operation of the great coal schooners. This work is gathered in a wonderful book, *A Shipyard in Maine: Percy & Small and the Great Schooners*, published in 1999 by Tilbury House, Publishers and Maine Maritime Museum. It should be available in fine bookstores and is available in one of the finest, the Maine Maritime Museum Store.)

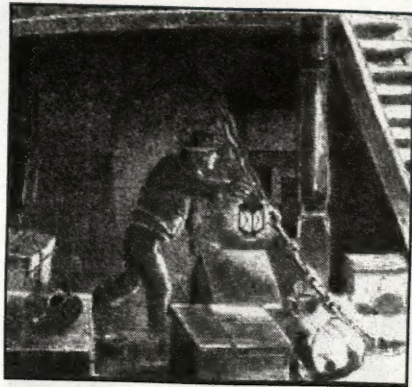


Wyoming's billet head. Washed ashore on Nantucket in March, 1924 and for years displayed on a boathouse on Nantucket's Old North Wharf. Courtesy Nicholas C. Punnett, Christine P. Corio, Stephanie P. Foster and Sarah S. Punnett.



Cora F. Cressy's billet head. Wyoming and Cressy, both Percy & Small schooners, anchored for a time during a gale near Pollock Rip in March, 1924. Cressy survived. Wyoming was lost with all hands. Today, the billet heads rest within 30 feet of one another in the Museum galleries.

Notes from The Orlop



"Welcome to a place where can be found curiosities from our store-rooms that may surprise you with their diversity. Such revelations are part of the delight of my daily business among the collections."

"The orlop was a region of a ship under the lower decks well below the waterline, a place of darkness, seepage, clutter and mystery."

Because of its relative safety below the exposure and tumult of the upper decks, the surgeon of a ship tended his charges in the dimness of the orlop. I find my job as collections manager analogous to this, as I, too, bustle about in a corrective manner well below the busy upper floors of Maine Maritime Museum.

"Each month I will reveal a new and extraordinary artifact on this page. I hope to intrigue you with the unexpected. My selection is entirely subjective, dictated simply by the Registrar's whimsy."

"Welcome to the Orlop!"

This is how Registrar Chris Hall introduces his monthly column on our website each month. You can find it from the home page via "Research," "Curatorial," and "Get More Details." The last several "Notes from the Orlop" are archived there to be perused at the reader's convenience. Come by the website often to check us (and Chris) out at www.maine.maritimemuseum.org.

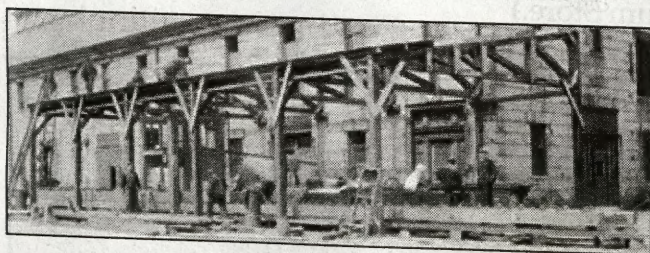
A Phantom Artifact: the missing Daniels Planer

One of the largest artifacts that we like to talk about at the Percy & Small shipyard is not here.

Sitting idle after the yard's slow-down after 1921, the large wood milling machine known as the Daniels planer was dismantled in 1927, sent to the Boston Navy Yard, and re-assembled to shape large timbers during a rebuilding of USS Constitution. Attempts to find "our" Daniels planer at the Navy

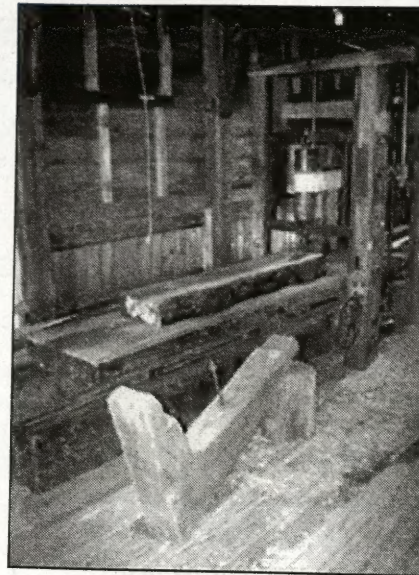
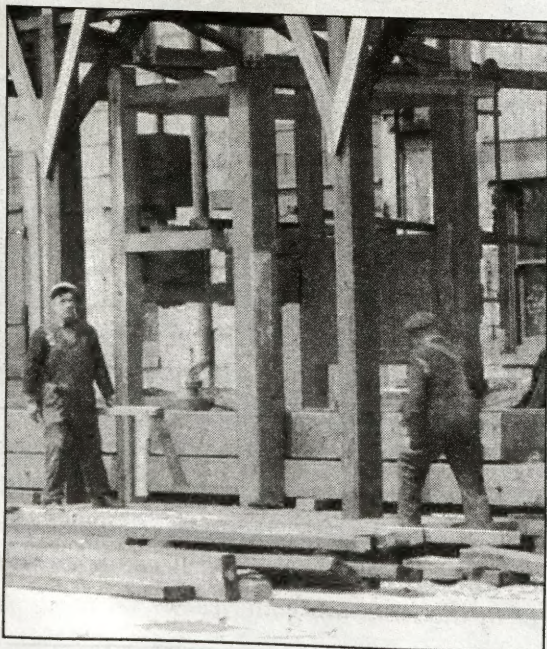
Yard have proved fruitless.

In a rare view taken at the Boston



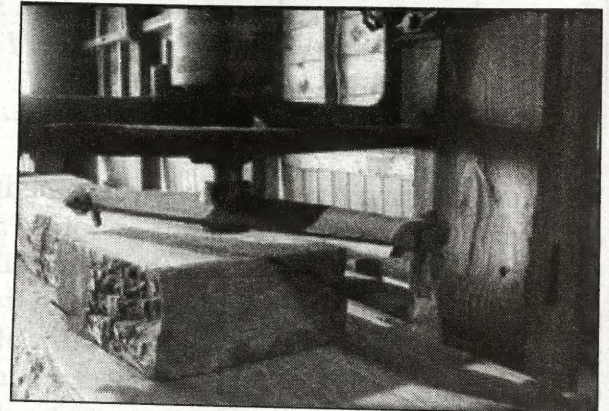
Navy Yard in 1927 by Capt. John Lord, the Bath native in charge of the refit, "our" Daniels planer can be seen nearly re-assembled.

Among the bustle of workers and new shed timbers, the stationary bed track can be seen. The upright wooden frame of the machine frame and a partition to protect the operator can be



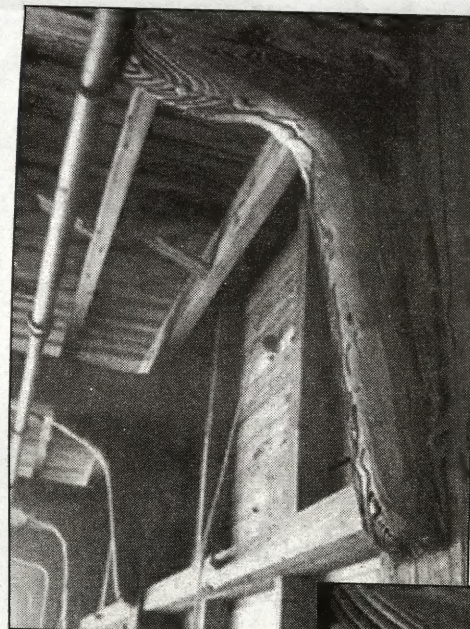
like the ship knee in the foreground. This was accomplished by dogging the log to the moving table of the planer and feeding it through the horizontally rotating cutterhead.

In this close-up of the planer's inner works, note the horizontal cutterhead with the small projecting toothlike blades at each end; then note the eroded grain of the wooden post of the planer's frame to the right.



Enormous amounts of waste wood were flung into the post and out beyond the spinning machinery, to spray against the walls and ceiling.

A closer look at the interior of the Mill at Percy & Small reveals the startling effects of this deafening ricochet of chips and sawdust.



A distinctive feature of the Mill is the use of ship knees to brace the building frame, much as they were used in a ship's frame. In the vicinity of the location of the original Daniels planer, the knees, posts, and ceiling boards have also been carved away from the continuous volley of chips removed by the whirling cutterhead.



(continued on page 8)

Save These Dates on Your Calendar!

- November 1, 2003** *Everlasting Sea - Marine Artists Past & Present Exhibit Opens*
- November 8, 2003** *Slide Show and Lecture by ASMA Fellow Loretta Krupinski - 3:00 P.M.*
- November 15, 2003** *Gordon Bok Concert - 7:00 P.M. to 9:00 P.M.*
- November 16, 2003** *Girl Scout Illustrating Workshop with Jack Schneider - 9:30 - Noon*
- November 27, 2003** *Thanksgiving Day, Museum Closed*
- December 2, 2003** *Volunteer Recognition Party*
- December 7, 2003** *Holiday Open House*
- December 25, 2003** *Christmas Day, Museum Closed*
- January 1, 2004** *New Year's Day, Museum Closed*
- January 4, 2003** *Everlasting Sea Exhibit Closes*
- February, 2004** *(Tentative) Ocean Commerce Exhibition Opens*

Remember the Museum With a Deferred Gift

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Corporate Partners Program

Our Corporate Partners Program exemplifies how Museum support can offer marketing benefits for our business partners, as opposed to purely philanthropic endeavors. In exchange for critically needed help - either financial or gifts-in-kind - this Program provides a menu of marketing benefits, representing advantages to both the business and to the Museum.

The trustees, staff & volunteers at Maine Maritime Museum encourage all area businesses to consider becoming Corporate Partners. Director Tom Wilcox, extension #324, will be happy to address any questions. His email address is: wilcox@bathmaine.com

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News from the Volunteer Crew

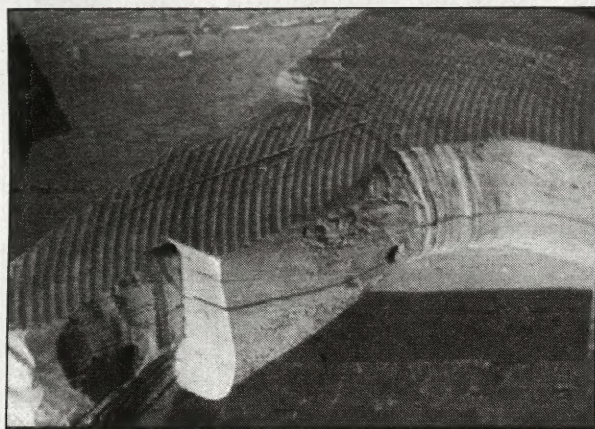
Another successful Quartermasters Day on October 18 saw sixty volunteers and staff get the Museum ready for winter by sweeping, raking, painting, repairing, stacking, washing, polishing, dusting, de-rigging, mowing, building, sealing and stamping, sorting, and sailing (yes sailing! the pinky schooner *Maine* to her winter berth). Our dedicated Quartermasters are a hardy bunch and their help at this semi-annual event is most appreciated. On October 25, thirty volunteers and staff dusted off their peg legs and eye patches for the annual Pirates' Party, which included an especially spooky haunted *Sherman Zwicker*. Volunteers' help will be needed for the special events happening in November and December, including the American Society of Marine Artists show, the writer's and illustrator's workshop, and the Holiday Open House. If you'd like to help, please contact Ellen Conner at 443-1316 ext. 350. The 2003 volunteer season will conclude with a special evening of recognition and celebration on December 2.

Ellen Conner
Volunteer Coordinator

Notes from the Orlop (continued from page 6)

Like driftwood subjected to blowing sand, the harder annual rings of the softwood knees have been blasted into relief and polished.

These flung chips could be lethally large if the planer was set aggressively; it could remove up to 2" of wood at a single pass.



When the specified dimension was achieved, the depth of the cutters was reduced, which made for lighter, smaller chips, and left a final scalloped surface.

These finer chips sprayed upward in a cloud and accumulated on overhead beams of the Mill, where the careful observer can still see them, undisturbed to this day.

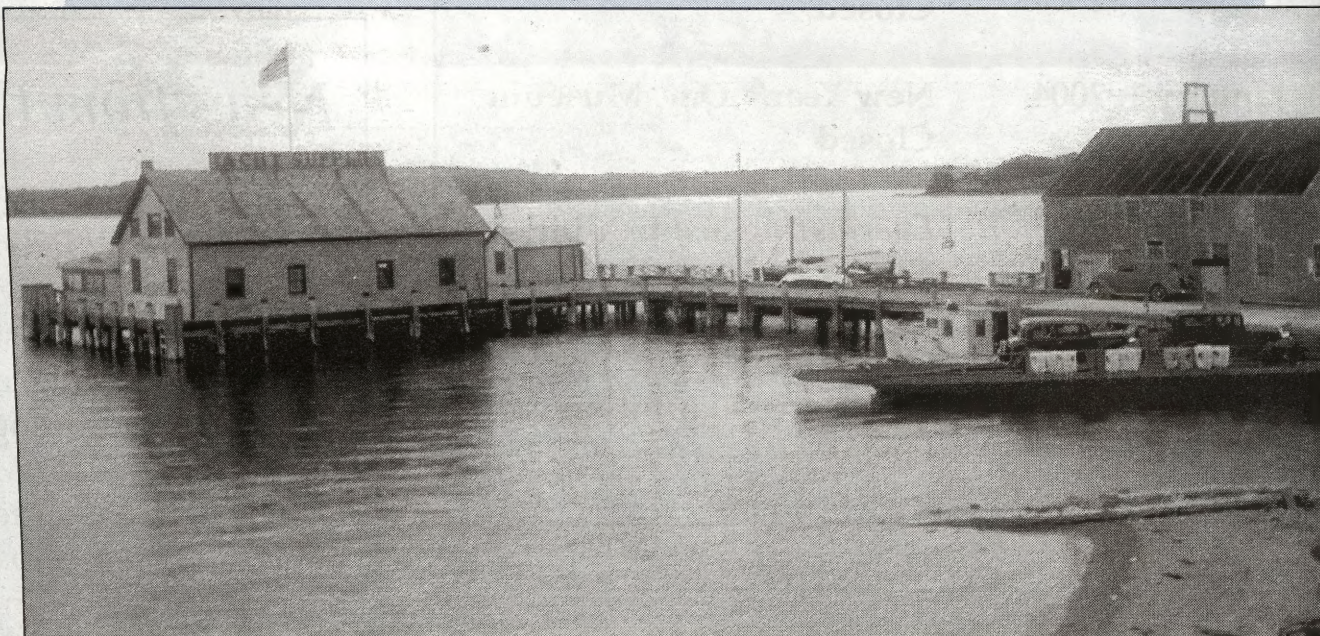


So, even if it has vanished, by careful study of its impact, literally, on the wooden surfaces nearby, some sense of the Daniels planer's snarling dominance of the Mill and its workers may be gleaned.

Puzzler From The Library

Nathan R. Lipfert, Curator
and Library Director

A New Puzzler: This is from a 3 1/2" by 6 1/2" photographic postcard, brand name *Defender*, donated in 1997 by Charles E. Burden. The white building at the left has a sign reading "YACHT SUPPLIES," and another sign leaning against its left end says "TEXACO." To the right is a small scow-ferry of the river-crossing type. It might not be Maine, but it was found in Maine. Can anyone be sure of the time and place? Please reply to Nathan Lipfert, (207) 443-1316, extension 328, or lipfert@bathmaine.com, or at the Museum's mailing address.



Last Issue's Puzzler: In the frenzy of the past few weeks, someone came up to me and showed me a photograph that looks like the same wharf and small white building seen here. There seems to be no written record of that encounter, and little memory. If that person would try again, perhaps we could get it right.